# *TEXAS DEPARTMENT OF INSURANCE*

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**PRODUCT EVALUATION** Effective July 1, 2011
WIN-412

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **September 2011**.*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

**Heritage Traditional Wood Operating Circle Top Casement Windows, Individual Windows and Mulled Assemblies, Non-impact Resistant**, manufactured by

**Kolbe & Kolbe Millwork Co., Inc.**
**1323 South Eleventh Avenue**
**Wausau, WI 54401**
**(715) 842 - 5666**

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

## PRODUCT DESCRIPTION

The Heritage Traditional wood operating circle top casement windows evaluated in this report are individual and mulled, non-impact resistant windows. This product evaluation report is for wood operating circle top casement windows based on the following tested constructions:

**General Description:**

| System | Description | Rating | Hallmark Certification |
|---|---|---|---|
| 1 | Heritage Traditional Operating Casement Quarter Circle Mulled; (XX) | C-R60 72 x 72<br>R-PG60 72x72-H | 413-H-1108.00<br>413-H-1108.01 |
| 2 | Heritage Traditional Operating Casement Half Circle; (X) | C-R35 36 x 72 | 413-H-960.00<br>413-H-960.01<br>413-H-960.02 |
| 3 | Heritage Traditional Operating Casement Half Circle High Performance; (X) | C-R65 36 x 72 | 413-H-958.00<br>413-H-958.01<br>413-H-958.02 |

**Product Dimensions:**

| System | Overall Size | Sash Size(s) | Glass Size(s) |
|---|---|---|---|
| 1 | 72 ¼" x 72" | Two: 34 1/16" x 70 1/16" | Two: 31 ¼" x 67 ¼" |
| 2 | 36" x 72" | 34 1/16" x 70 1/16" | 31 ¼" x 67 ¼" |
| 3 | 36" x 72" | 34 1/16" x 70 1/16" | 31 ¼" x 67 ¼" |

**Glazing Description:**

| System | Glass Construction [1] | Glazing Method [2] |
|---|---|---|
| 1 | IG-2 | GM-2 |
| 2 | IG-1 | GM-1 |
| 3 | IG-2 | GM-1 |

Note: [1] See the "Glass Construction Key" for the glass construction.
[2] See the "Glazing Method Key" for the glazing method description.

**Glass Construction Key:**

IG-1: The window contains a sealed insulating glass unit in each sash. The sealed insulating glass unit is comprised of two single strength ($\frac{3}{32}$") annealed glass lites separated by an aluminum spacer system. The glass thickness and type used in the insulating glass unit of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

IG-2: The window contains a sealed insulating glass unit. The sealed insulating glass unit is comprised of two $\frac{5}{32}$" annealed glass lites separated by a stainless steel spacer system. The glass thickness and type used in the insulating glass unit of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

**Glazing Method Key:**

GM-1: The insulating glass unit or the glass lite is set from the interior against a bead of structural silicone sealant backbedding. Along the interior, wood glazing stops are secured with brads spaced 2 inches from each corner and 5-6 inches on center.

GM-2 The glass lite is set from the interior against foam glazing tape and silicone. Wood glazing stops secure the insulating glass units in place from the interior. The wood glazing stops are secured to the frame with brads spaced 2 inches from each corner and 6 to 8 inches on center.

**Frame Construction:** The frame members consist of molded pine. The frame corners are rabbeted, butted, sealed with silicone, and secured with staples. Interior wood jamb stops are utilized at the head and side jambs. They are secured with staples spaced 2 inches from each end and 8 to 10 inches on center. The brickmould is secured to the frame side jambs with and head with 2" long autonail wires located 3 inches from each end and 10 inches on center. The sill nosing is secured to the brickmould with one wood screw per corner and to the frame sill with glue and 2 $\frac{1}{2}$" long T-nails spaced approximately 2 inches from each end and approximately 8-10 inches on center. Full-length wood operator covers are secured on the sill with 2" T-nails spaces 2 inches from each end and 10 inches on center of the crankout.

**Sash Construction (System 1):** The sash members consist of molded pine. The sash corners are mortise and tenon construction, sealed with silicone, glued, and secured with screws.

**Sash Construction (Systems 2 and 3):** The sash members consist of molded pine. The sash corners are mortise and tenon construction, sealed with silicone, glued, and secured with screws. The sash is one continuous finger jointed piece with no joints within 6 inches of the spring line.

**Vertical Mullion (System 1):** The vertical mullion is reinforced with a $\frac{1}{4}$" x 3 $\frac{1}{2}$" x 72" long steel mull stiffener. The mull stiffener is secured to the left side jamb of the window with No. 8 screws. The right side window unit is secured with No. 8 screws driven back through the left side jamb, through the holes in the stiffener, and into the right side jamb. An exterior mull cover is secured over the mull.

**Hardware:**

- **System 1:** Ashland single actuated three-point lock with metal keeper; One (1) required; Located on the side jamb. Tri-Euro hinges; Three (3) required; Located on the short leg of the side jamb and sash stile. Truth Encore single arm operator with track; One (1) required; Located on the frame sill.

- **System 2:** Ashland single actuated two-point lock with metal keeper; One (1) required; Located on the side jamb. Tri-Euro hinges; Four (4) required; Located on the short leg of the side jamb and sash stile. Truth Encore single arm operator with track; One (1) required; Located on the frame sill.

- **System 3**: Ashland single actuated three-point lock with metal keeper; One (1) required; Located on the side jamb. Tri-Euro hinges; Four (4) required; Located on the short leg of the side jamb and sash stile. Truth Encore single arm operator with track; One (1) required; Located on the frame sill.

**Product Identification:**

**System 1:** A certification program label (WDMA Hallmark Certified) will be affixed to the window. The certification program label includes the manufacturer's name; product name; performance characteristics; the approved inspection agency (WDMA); and the applicable standards: AAMA/WDMA/CSA 101/I.S.2/A440-05 and AAMA/WDMA/CSA 101/I.S.2/A440-08.

**Systems 2 and 3:** A certification program label (WDMA Hallmark Certified) will be affixed to the window. The certification program label includes the manufacturer's name; product name; performance characteristics; the approved inspection agency (WDMA); and the applicable standards: AAMA/WDMA/CSA 101/I.S.2/A440-05 and AAMA/WDMA 101/I.S.2/NAFS-02.

## LIMITATIONS

**Design pressures (DP):**

| System | Overall Width (in.) | Overall Height (in.) | Design Pressure (psf) |
|---|---|---|---|
| 1 | 72 1/4 | 72 | ± 60 |
| 2 | 36 | 72 | ± 35 |
| 3 | 36 | 72 | ± 65 |

**Impact Resistance:** These window assemblies do not satisfy the Texas Department of Insurance's criteria for protection from windborne debris. These window assemblies will need to be protected with an impact protective system when installed in areas where windborne debris protection is required.

**Acceptance of Smaller Assemblies:** Window assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

## INSTALLATION INSTRUCTIONS

**General:** The window assembly shall be prepared and installed in accordance with the manufacturers recommended installation instructions. Detailed installation instructions and drawings are available from the manufacturer.

**Installation:**

**Option 1:** The window assembly shall be fastened to minimum Southern Yellow Pine lumber. The window assembly is secured to the wall framing using Kolbe & Kolbe metal installation clips. The installation clips (1 5/8" x 10 1/16" x 0.04") are secured to the window frame side jambs, head, and sill. The clips are secured to the window frame with two (2) No. 8 x 3/4" screws. The clips are secured to the wall framing with one (1) No. 8 x 1 3/4" screw. The fasteners shall be long enough to penetrate a minimum of 1 1/2" into the wall framing. The spacing of the clips is specified in the table below.

**Installation Clip Spacing:**

| System | Distance From Each Corner | Head (on center spacing) | Sill (on center spacing) | Side Jambs (on center spacing) |
|---|---|---|---|---|
| 1 | 18" | 18" along radius | 18" | 18" |
| 2 | 24 | 18" along radius | 18" | 24" |
| 3 | 14 1/2" | 18" along radius | 14 1/2" | 14 1/2" |

**Option 2:** The window assembly shall be fastened to minimum Southern Yellow Pine lumber. The window assembly is secured to the wall framing using the window frame with minimum No. 10 screws. The fasteners shall be long enough to penetrate a minimum of 1 1/2 inches into the wall framing. The spacing of the fasteners is specified in the table below.

**Fastener Spacing:**

| System | Distance From Each Corner | Head (on center spacing) | Sill (on center spacing) | Side Jambs (on center spacing) |
|---|---|---|---|---|
| 1 | Side Jambs: 12" Head/Sill: 18" | 12" along radius | 18" | 12" |
| 2 | 18" | 18" | 18" | 18" |
| 3 | 12" | 12" | 12" | 12" |

**Vertical Mullion (System 1):** The vertical mullion is secured to the wall framing with a 3S anchor that is secured to a steel anchor plate and an 18 gauge steel anchor clip at each end of the mullion. The anchor plate is interlocked with the mullion stiffeners. The anchor clips are secured to the window sill with six (6) No. 8 x 3/4" screws and with four (4) No. 8 x 2 1/4" screws. The anchor clips are secured to the wall framing with eight (8) No. 8 x 1 1/4" screws. At the head, a strip anchor is secured to the wall framing with four (4) No. 12 x 1 3/4" screws. The strip anchor is secured to the vertical mullion with a stainless steel pin.

**Note:** The manufacturer's installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.